

29 March, 1993

Mr. Tom McGoff 284 Washington Street Barre, Vermont 05641

RE: Progress Report on the Remediation of Subsurface Petroleum Contamination.

McGoff's Sunoco, Barre, Vermont. VTDEC Site #90-0485

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Dear Mr. McGoff:

Please find enclosed Griffin's Progress Report on the Remediation of Subsurface Petroleum Contamination at the above referenced site.

We have forwarded an additional copy of the report to Richard Spiese at the Vermont Department of Environmental Conservation.

Griffin is pleased to be conducting this work for you. If you have any question, please call.

.8ingerely,

Hydrogeologist

Enclosure

cc Richard Spiese, VTDEC

PROGRESS REPORT ON THE REMEDIATION OF SUBSURFACE PETROLEUM CONTAMINATION

McGOFF'S SUNOCO 284 WASHINGTON STREET BARRE, VERMONT

VTDEC SITE #90-0485 GRIFFIN JOB#10914132

MARCH 1993

Prepared by:

GRIFFIN INTERNATIONAL, INC. 2B Dorset Lane Williston, Vermont 05495 (802) 879-7708

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Introduction

This report summarizes the operation and maintenance of the groundwater and soil remediation systems installed at the McGoff's Sunoco Station in Barre, Vermont from mid-August 1992 through 15 March 1993. Progress of the remediation effort during the period is also discussed. Remediation efforts are being conducted to reduce and/or eliminate residual petroleum contamination in the subsurface. System installation and progress prior to August '92 are discussed in previous Griffin reports.

Treatment System Operation and Maintenance

A current system schematic appears on page A1 of the Appendix. All system elements are thoroughly inspected and maintained during Griffin's bi-weekly site visits. Routine maintenance of the soil vapor extraction system include the shutting down of the incinerator to remove water from the moisture trap and clean the debris filter. Incinerator operating temperatures before shutdown and after start-up are recorded. Photoionization detector (PID) measurements of incinerator influent and effluent are collected and recorded to document performance.

A new mercury standard vacuum gage was installed on the soil vent extraction system on 31 August 1992 and a line leak at the debris filter was repaired on 3 November 1992. The incinerator and above ground soil vent lines were insulated on 11 January 1993.

Routine maintenance of the groundwater recovery and treatment system includes the inspection and cleaning of the recovery well pump, and rotation of the liquid phase carbon drums. Ten liquid phase carbon drums were rotated through the system during the six month report period. Five spent carbon drums were removed from the site by Pollution Solutions on 4 February 1993. Water flowed freely to the recharge galleries during the period.

The water level control probes in the recovery well were lowered on 10 September 1992 to increase drawdown and the well's area of influence.

Recovery Well Discharge Rates and Drawdown

Average Daily discharge rates from the recovery well are tabulated and charted on page A2 of the Appendix. Recovery well discharge prior to lowering of the water level control probes was averaging just over 6,000 gallons per day (gpd). After lowering the control probes three feet on 10 September 1992, discharge from the recovery well increased to over 13,000 gpd. Discharge declined steadily to around 6,000 gpd from 18 September 1992 to 15 March 1993. The decline in discharge is attributed to a seasonal lowering of the water table.

The cone of depression resulting from recovery well discharge is illustrated on the two groundwater contour maps on pages A3 and A4 of the Appendix. These maps display data from 13 November 1992 and 18 February 1993. Supporting liquid level data is presented on page A5 of the Appendix. No free phase product accumulated in the recovery well during the period. The amount of liquid phase product equivalent being recovered through removal of dissolved phase contamination from the groundwater is negligible.

Sampling of Recovery Well Water: Pre and Post Treatment

To establish contaminant concentrations in groundwater being pumped from the recovery well, water samples are collected and analyzed to EPA Method 602. This data is tabulated and charted on page A6 of the Appendix. This data indicates that contaminant concentrations have declined significantly since the beginning of the report period. The total concentration of BTEX+MTBE in groundwater from the recovery well was 270 parts per billion (ppb) on the 2 March 1993 sampling date. Contaminant concentrations were below the Vermont Drinking water standards on 7 and 17 December 1992 and on 20 January and 18 February 1993. Benzene was the only compound present (11.1 ppb) above the drinking water standard (5.0 ppb) on the most recent sample date (2 March 1993).

Lab analyses of samples collected after treatment are presented on page A7 of the Appendix and indicate that the carbon adsorption drums reduced BTEX concentrations in discharged groundwater to non detect levels on all sample dates. MTBE broke through the carbon drums at concentrations below the Vermont Drinking water standards on four sample dates over the six month report period.

Soil Vent System Operation and Treatment Of Soil Vent Air

PID measurements are taken in air exiting the soil vapor extraction system to evaluate the concentration of volatile organic compounds (VOCs). PID measurements are also collected after incineration to document incinerator performance. PID measurements have been made with both Hnu model and MicroTIP PID's. PID data is presented on pages A8 and A9 of the Appendix.

Data from both model PIDs indicate elevated concentrations of VOCs still flowing from the soil vapor extraction system. Data collected with the Hnu Model PID indicates concentrations of approximately 150 ppm while MicroTIP readings indicate stabilized concentrations ranging from 256 to 868 ppm over the last six months. The best fit trend curves for the data from both PIDs both indicate declining hydrocarbon concentrations. A more significant decline in contaminant concentrations is indicated by the MicroTIP PID, which experience suggests is more sensitive at higher contaminant concentrations. The declining contaminant concentrations indicated by the decreasing PID data suggest that residual petroleum contamination in the vicinity of the soil vent system is being reduced.

Vacuum measurements in the soil vapor extraction system indicate a flow rate of approximately 40 cubic feet per minute. This flow rate is developed from the rating curve for the blower which draws air through the system.

Product Recovery Rates

Product recovery rates from the soil vent system are estimated using the manufacturer's (Falmouth Products) recommended method. By using the temperature differentials recorded from the Falco 100 incinerator and the air flow rates through the soil vent system, product recovery rates can be estimated. System operating temperatures and flow rates are recorded during the biweekly site visits. Using this data, Griffin estimates a current recovery rate of approximately 0.8 gallons per day (liquid phase equivalent). Total recovery to date is near 470 gallons. Indicated recovery rates are charted and tabulated on pages A10 and A11.

Groundwater Sampling of Area Monitoring Wells

Groundwater samples are collected from surrounding monitoring wells periodically to document groundwater conditions at the site. All groundwater quality data is tabulated and charted on page A12 to A18 of the Appendix. Contaminant concentrations are non-detect or below Vermont

drinking water standards in monitoring wells 1, 2, 5 and 6. Groundwater quality improved in the vicinity of MW3 from 17 June 1992 to 17 December 1992. Contaminant concentrations in MW3 increased significantly on the 20 January 1993 sampling event.

On 13 November 1992, 0.61 feet of free phase product was detected in MW4. Measured product thickness in MW4 increased to 1.68 feet by the 18 February site visit.

Conclusions

Based on the data collected from the operation of the remediation system at McGoff's Sunoco during this report period, Griffin has reached the following conclusions:

- 1) The groundwater recovery well has been discharging between six and thirteen thousand gallons per day. This flow rate has maintained a drawdown of approximately three to five feet and a radius of influence of approximately ten to twenty feet as indicated by the water level data from surrounding monitoring wells.
- 2) Contaminant concentrations in groundwater pumped from the recovery well decreased significantly over the report period, and were below Vermont drinking water standards on four recent sample dates. No free phase product was detected in the recovery well during the report period.
- 3) Data collected during operation of the catalytic incinerator indicate that approximately 0.8 gallons (liquid phase equivalent) of free phase product are being recovered from the soil vapor extraction system daily. Recovery rates from the system are decreasing as product is removed from the subsurface. However, elevated PID readings and the currently indicated recovery rate suggest that appreciable additional product can be recovered through operation of the soil vapor extraction system. Operational data indicates that approximately 470 gallons of liquid phase equivalent product have been recovered from the soil vapor extraction system since start-up.
- 4) Free phase product has accumulated in downgradient MW4 and indicates that some residual free phase product still exists beneath portions of the site.
- 5) The remediation system has been operating properly and no major repairs were required during the report period.

Recommendations

Based on data gathered from operation of the remediation system during this report period Griffin recommends the following:

- Since the soil vent system continues to liberate significant concentrations of adsorbed VOCs from the vadose zone, continued operation of this system is recommended.
- 2) Since contaminant concentrations in the groundwater discharged from the recovery well have decreased to near or below Vermont drinking water standards, and since no free phase product has been detected in the recovery well, Griffin recommends turning off this portion of the remediation system. The recovery well can continue to be used for water level data and can be monitored free phase product during site visits.
- 3) Free phase product in MW4 should be recovered through manual bailing and stored on-site in an appropriate container. Records of observed product thickness before and after bailing, and the amount of product recovered should be maintained. Griffin should be able to accomplish this during scheduled site visits. Since MW4 is located in the traveled portion of Route 302, two people will be required to safely accomplish this task.

APPENDIX

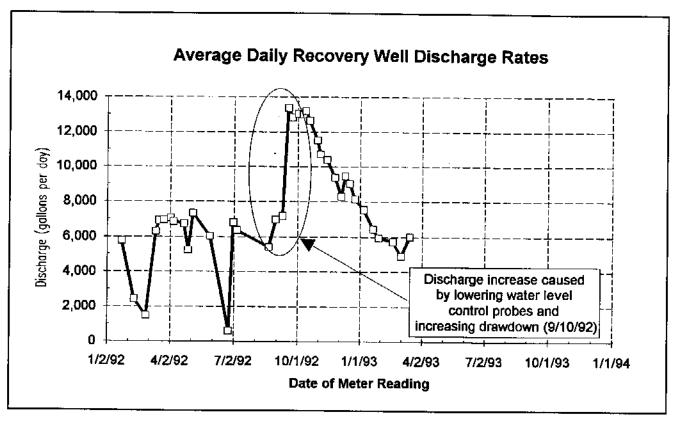
RECOVERY SOIL VENT WELL POINTS SAMPLE PORT (CARBON INFLUENT) SAMPLE PORT MOISTURE CARBON DRUM KNOCKOUT SAMPLE PORT (CARBON EFFLUENT 1) DILUTION CARBON DRUM VALVE SAMPLE PORT SAMPLE PORT (CARBON EFFLUENT 2) RECHARGE **INCINERATOR** GALLERIES SAMPLE PORT EXHAUST

REMEDIATION SYSTEM SCHEMATIC

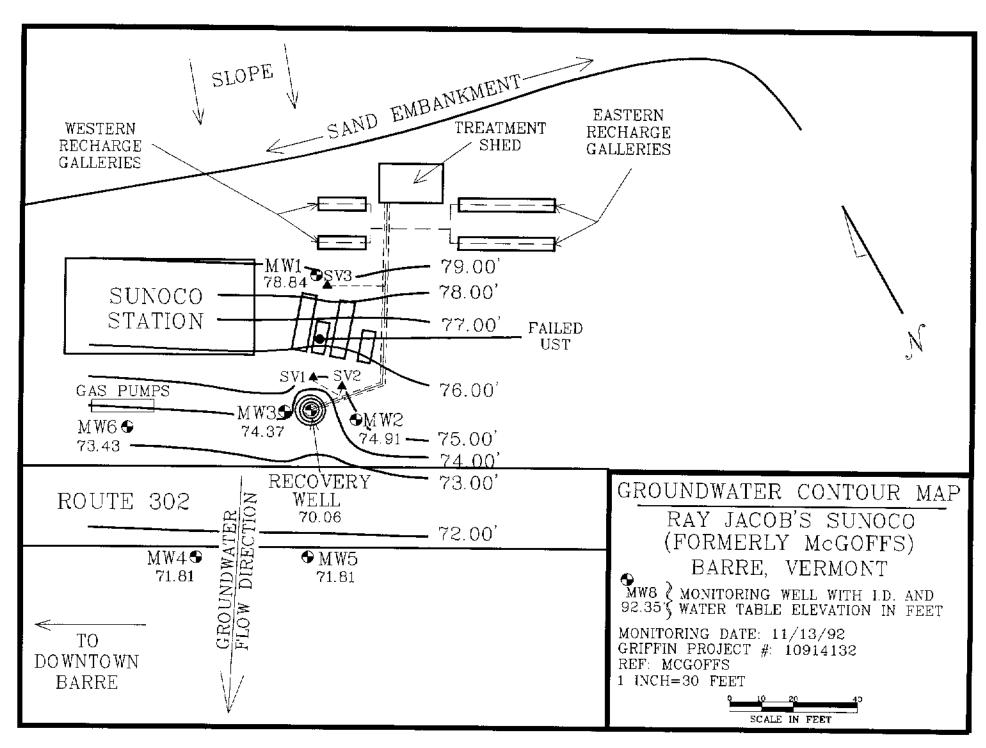
RAY JACOB'S SUNOCO (FORMERLY McGOFF'S) BARRE, VERMONT

UPDATED: 3/24/93 PROJECT #10914132 GRIFFIN INTERNATIONAL, INC.

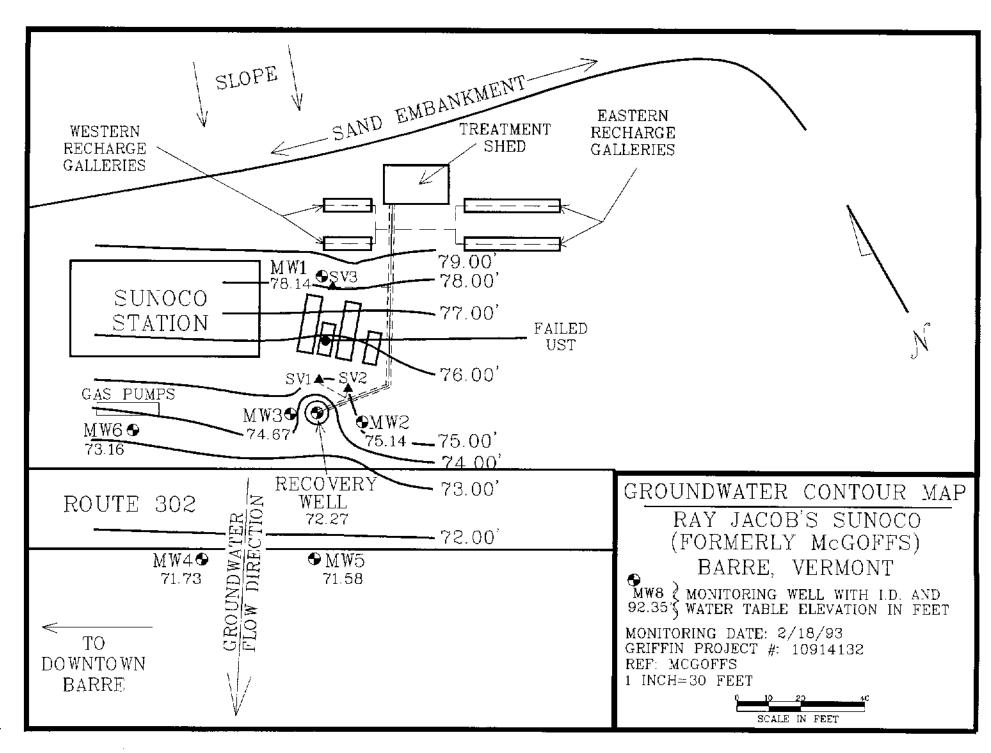
Jacob's Sunoco (Formerly McGoff's) Barre, Vermont



DATE	METER	Delta	Delta	FLOW	FLOW
	(gallons)	Days	Gallons	(gal/day)	(gal/min)
8/26/92	978,537	5			
8/31/92	1,013,385	5	34,848	6,970	4.84
9/10/92	1,085,076	10	71,691	7,169	4.98
9/18/92	1,192,055	8	106,979	13,372	9.29
9/24/92	1,268,968	6	76,913	12,819	8.90
10/2/92	1,373,364	8	104,396	13,050	9.06
10/9/92	1,464,475	7	91,111	13,016	9.04
10/13/92	, , -	4	52,807	13,202	9.17
10/19/92	1,593,130	6	75,848	12,641	8.78
10/30/92		11	126,853	11,532	8.01
11/3/92	1,762,774	4	42,791	10,698	7.43
11/13/92	1,866,735	10	103,961	10,396	7.22
11/25/92	1,979,004	12	112,269	9,356	6.50
12/4/92	2,053,660	9	74,656	8,295	5.76
12/10/92	2,110,297	6	56,637	9,440	6.56
12/17/92	2,173,431	7	63,134	9,019	6.26
12/24/92	2,230,333	7	56,902	8,129	5.65
1/6/93	2,328,389	13	98,056	7,543	5.24
1/20/93	2,418,460	14	90,071	6,434	4.47
1/28/93	2,466,001	8	47,541	5,943	4.13
2/18/93	2,586,523	21	120,522	5,739	3.99
3/2/93	2,645,215	12	58,692	4,891	3.40
3/15/93	2,723,391	13	78,176	6,014	4.18



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Ray Jacob's Sunoco (Formerly McGoff's) Liquid Level Monitoring Data 13-Nov-92

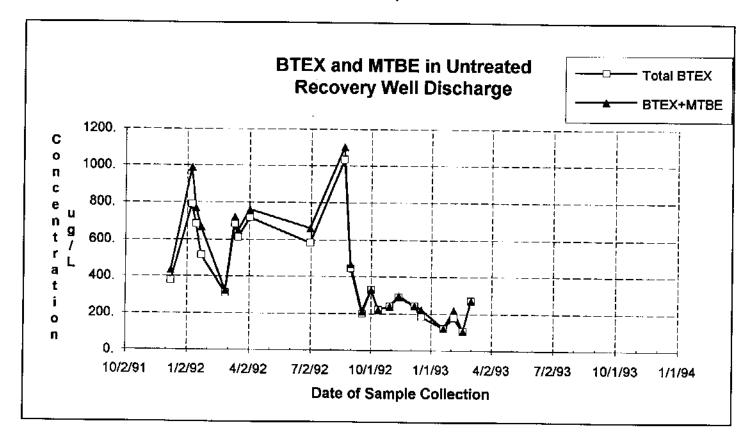
Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Hydro Egiuvalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1		100.00	-	21.16	-	-	-	-	78.84
MW-2	-	97.66	•	22.75	-	_			74.91
MW-3	-	98.34	-	23.97	-	-			74.37
MW-4	<u>-</u>	98.67	26.79	27.40	0.61	0.88	0.54	26.86	71.81
MW-5	-	98.63	-	26.82	-		0.54	20.00	71.81
MW-6	-	99.56		26.13		† 			
R/W	-	96.69	-	26.63	-	· -		<u> </u>	73,43 70.06

All Values Reported in Feet

Ray Jacob's Sunoco (Formerly McGoff's) Liquid Level Monitoring Data 18-Feb-93

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Hydro Eqiuvalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	-	100.00	-	21.86	-	-	-		78.14
MW-2	-	97.66	-	22.52	-				75.14
MW-3	<u>-</u>	98.34	-	23.67	-				74.67
MW-4	-	98.67	26.74	28.42	1.68	0.88	1.48	26.94	71.73
MW-5		98.63	-	27.05	-		1.40	20.34	71.73
MW-6	•	99.56	-	26.40	-	 	<u> </u>		
R/W	-	96.69	-	24.42		<u> </u>	·		73.16 72.27

All Values Reported in Feet



Recovery Well

		ample Co								
PARAMETER	10/2/92	10/13/92	10/30/92	11/13/92	12/7/92	12/17/92	1/20/93	2/4/93	2/18/93	3/2/93
Benzene	36.9	28.9	20.5	20.5	5.1	TBQ	ND	7.5	ND	11.1
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,2-DCB	ND	ND	ND	ND	ND		ND	ND	ND	NE
1,3-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,4-DCB	ND.	ND	ND	ND	ND	ND	ND	ND	ND	NE
Ethylbenzene	ND	ND	5.5	5.5	ND	ND	ND	5.0	ND	TBC
Toluene	184.	125.	127.	166.	151.	118.	74.	88.5	63.8	158.0
Xylenes	109.	67.7	87.5	98.0	87.1	67.1	48.4	79.5	43.5	101.0
Total BTEX	330.	222	241	290.	243.	185.	123.	181.	107.	270
MTBE	TBQ	ND	ND	6.0	TBQ	39.1	ND	38.5	ND	NE
BTEX+MTBE	330.	222	241.	296.	243.	224.	123.	219.	107.	270

All values reported in ug/L (ppb)

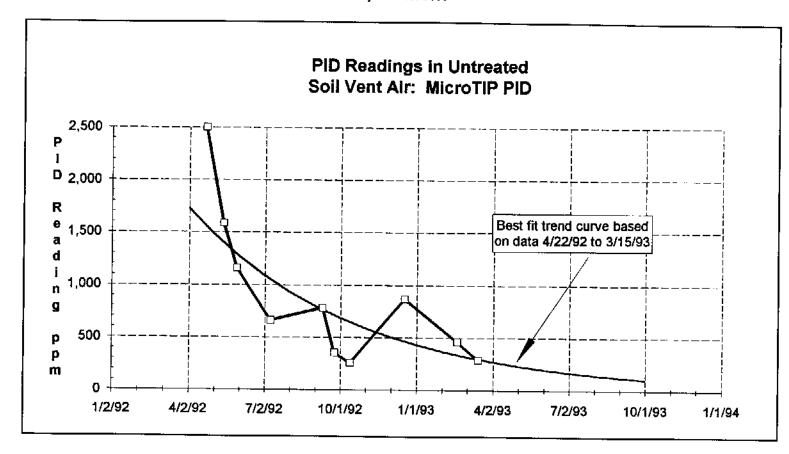
Groundwater Quality Summary Jacob's Sunoco (Formerly McGoff's) Barre, Vermont

BTEX and MTBE In Treated Groundwater (After second Carbon Drum)

		Date of S	ample Co	llection									
PARAMETER	8/21/92	8/31/92	9/18/92	10/2/92	10/13/92	10/30/92	11/13/92	12/7/92	12/17/92	1/20/93	2/4/93	2/18/93	3/2/93
Benzene	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	Ź	S	ND	ND	ND	ND	ND	ND	ND	ND	· ND	ND	ND
1,2-DCB	2	S	DN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-DCB	2	S S	ДN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-DCB	S	ND	ND	ND	ND.	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	Ŋ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ŊD	ND	DN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	2	ND ND	ND	ND	D N	ND	ND		ND	ND	ND	ND	ND
Totali BTEX	ND.	ND	XO	ΧĐ	ND	ND	ND	NB	i NB	ND	ND	ND	ND
MTBE	ND	ND	16.3	ND	DZ	2.2	4.7	TBQ	ND	ND	ND	ND	ND
E ESTANTES	. ND	NO	16,3	ΝĎ	ND.	2.2	. 4 7	TER	ΝÖ	10	, ND	, MD	ND

All Values Reported in parts per billion (ppb)

Ray Jacob's Sunoco (Formerly McGoff's) Barre, Vermont



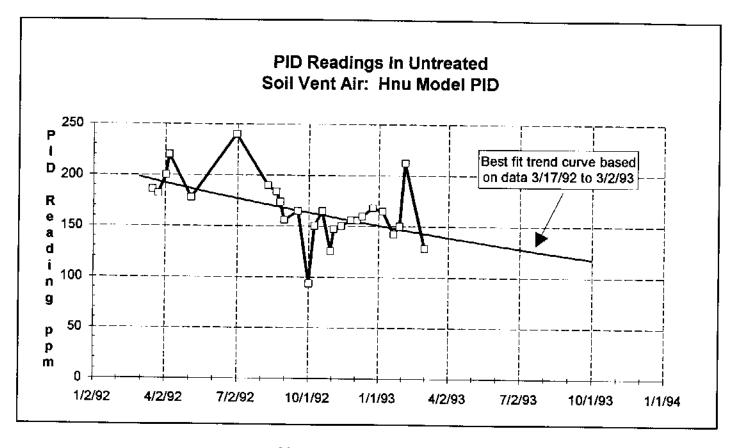
MicroTIP PID Data

Date	Pre-Incineration	Post-Incineration
of	PID	PID
_Measurement	Reading	Reading
4/22/92	>2,500	19.3
5/13/92	1,585	6.5
5/29/92	1,157	8.0
7/9/92	662	90.2
8/5/92	850	1.0
8/6/92	1900	0.3
9/10/92	784	5.0
9/24/92	356	0.0
10/13/92	256	0.7
12/17/92	868	0.0
2/18/93	460	0.0
3/15/93	287	2.7

PID readings reported in parts per million (ppm) and collected with Photovac Model HL2000 PID

PID Calibrated with isobutylene and referenced to benzene

Ray Jacob's Sunoco (formerly McGoff's) Barre, Vermont



Hnu PID Data

<u> </u>	Dec Indiana	
	Pre-Incineration	Post-Incineration
	PID	PID
Date	Reading	Reading
3/17/92	186	3.6
3/24/92	182	2.1
9/18/92	165	0.0
10/2/92	94	0.4
10/9/92	150	0.0
10/19/92	165	0.0
10/30/92	125	0.0
11/3/92	147	0,4
11/13/92	150	0.6
11/25/92	156	1.2
12/4/92	156	0.2
12/10/92	160	0.4
12/24/92	168	0.5
1/6/93	165	0.0
1/20/93	142	0.6
1/28/93	150	1.8
2/4/93	212	0.0
3/2/93	128	0.2

PID readings reported in parts per million (ppm) and collected with HNU Model PI101 PID

PID Calibrated with isobutylene and referenced to benzene

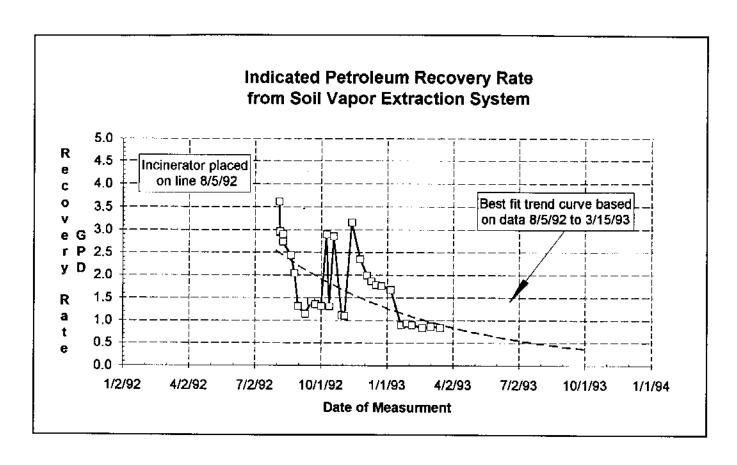
Indicated Petroleum Recovery Rates Jacob's Sunoco (Formerly McGoff's) Barre, Vermont

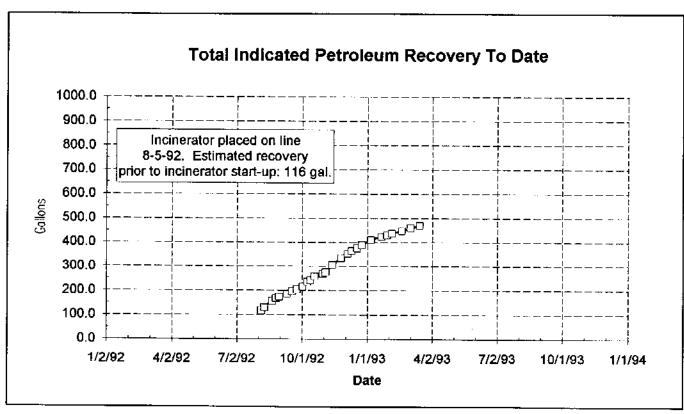
			Delta T	System	Air Flow	Product	Total
Date	T1 (C)	T2 (C)	T2-T1 (C)	Vacuum	Rate	Recovery	Recovery
				(inches Hg)	(CFM)	Rate (gpd)	To Date**
8/5/92	339	474	135	28*	62	3.6	116.0
8/6/92	350	476	126	34*	54	2.9	118.9
8/6/92	387	559	172	-	40	3.0	118.9
8/10/92	338	484	146	38*	46	2.9	130.5
8/10/92	348	506	158	-	40	2.7	130.5
8/21/92	340	488	148	43.5*	38	2.4	157.3
8/26/92	330	454	124	43*	38	2.0	167.4
8/31/92	330	452	122	3.5	25	1.3	174.0
9/10/92	330	435	105	3.5	25	1.1	185.4
9/18/92	329	460	131	3.5	25	1.4	196.7
9/24/92	330	456	126	3.5	25	1.4	204.9
10/2/92	331	453	122	3.5	25	1.3	215.4
10/9/92	331	453	122	2.5	55	2.9	235.7
10/13/92	331	452	121	3.5	25	1.3	240.9
10/19/92	330	446	116	2.4	57	2.9	258.1
10/30/92	330	433	103	3.5	25	1.1	270.3
11/3/92	330	431	101	3.5	25	1.1	274.7
11/13/92	356	526	170	3.0	43	3.2	306.2
1/20/93	329	412	83	3.5	25	0.9	422.7
1/28/93	330	416	86	3.5	25	0.9	430.1
2/4/93	331	414	83	3.5	25	0.9	436.4
2/18/93	330	407	77		25	0.8	448.0
3/2/93	330	409	79	3.8	25	0.9	458.2
3/15/93	331	408	77	3.5	25	0.8	469.1

^{* -} Water Standard vacuum measurement

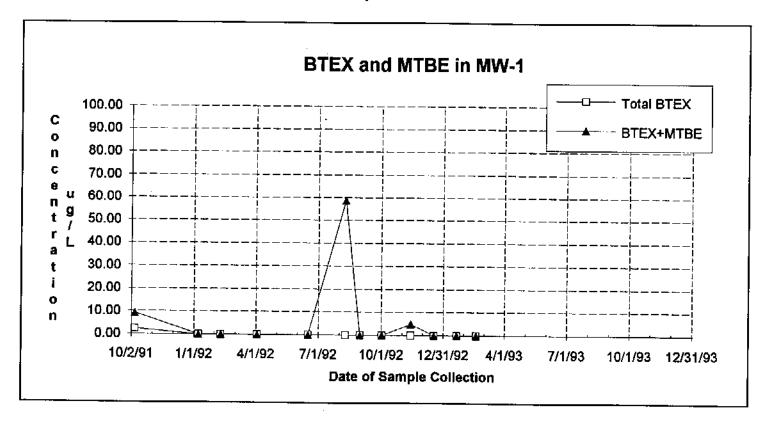
Recovery rate: (delta T) x (Flow Rate) x (0.000424 (conversion factor))

^{* -} Based on current recovery rates plus estimated recovery prior to installation of catalytic incinerator





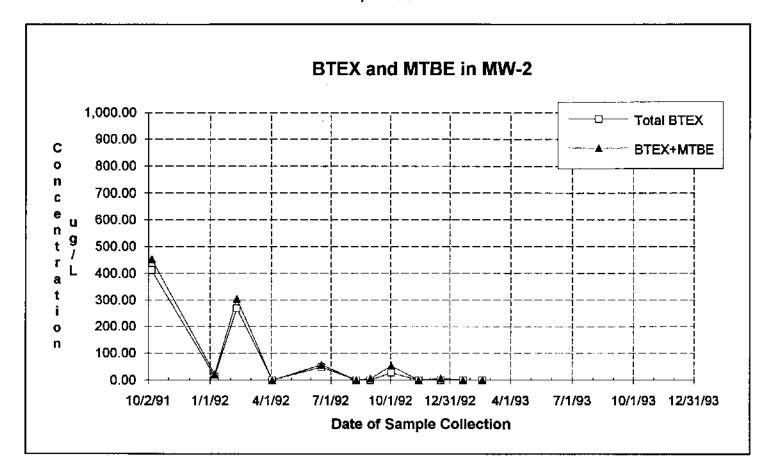
Petroleum Recovery Rates are estimated using temperature data from the catalytic incinerator. An air flow rate through the soil vapor extraction system of 40 cubic feet per minute is assumed based on rating curve data for the system blower.



Monitoring Well 1

	Date of S	ample Co	llection				·			
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/92	12/17/92	1/20/93	2/18/93
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,2-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,4-DCB_	ND	ND	ND	ND	ND	ND		ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND		ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total STEX	ИĎ	DM	ND	ND	NO	ND	ND	ND	ND	NC
MTBE	ND	ND	ND	58.7	ND	ND	4.8	ND	ND	ND
STEXANTSE	ND	ND	ŊD	68,7	ND	ND	4.8		ND	N B

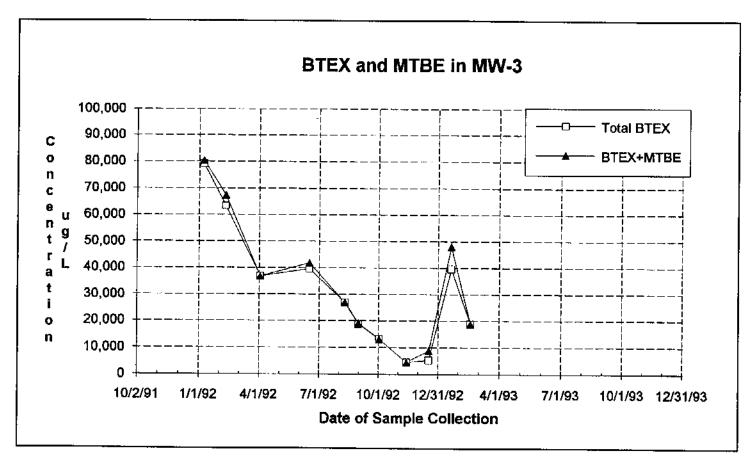
All values reported in ug/L (ppb)



Monitoring Well 2

	D (60									
	Date of S	ample Co								
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/92	12/17/92	1/20/93	2/18/93
Benzene	43.6	ZD	12.3	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ZD	ND	ND	Z D	ND	ND	ND	ND	ND
1,2-DCB	ND	ZD	ND	20	ND	ND	S	ND	ND	ND
1,3-DCB	ND	ND	ND	ND	D	ND	ND	ND	ND	ND
1,4-DCB	ND	ND	ND	ND	NĐ	ND	ND	ND	ND	ND
Ethylbenzene	7.71	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	70.8	ND	12.4	ND	ND	6.8	ND	ND	ND	ND
Xylenes	146.	ND	23.5	ND	ND	20.8	ND	ND	ND	ND
Total BTEX	268.	ND	48.2	ND	Ğ	27.6	₩D	ND	ND	ND
MTBE	36.	TBQ	8.0	ND	5.1	25.7	ND	5.1	ND	ND
BTEX4MTBE	304	TER	56,2	- ND	5.1	53.3	ND	5.1	ND	NC

All values reported in ug/L (ppb)



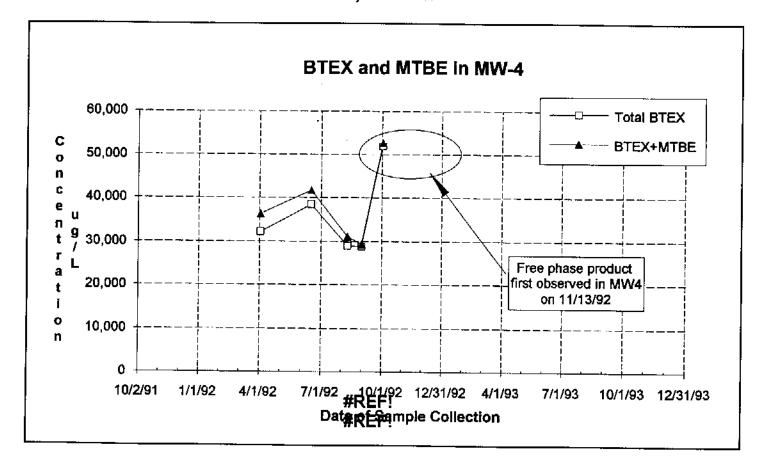
Monitoring Well 3

				itoring M	ven 3					
	Date of S	ampie Co	llection							
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/92	12/17/92	1/20/93	2/18/93
Benzene	15,500.	6,490.	8,360.	5,660.	3,080.	543.	150.	237.	4,890.	1,010
Chlorobenzene	ND	ZD	ND	ND	ND	ND	ND	ND	ND	NE
1,2-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,3-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	NE
1,4-DCB	ND	ND	ND	ND	ND	ND		ND	ND	NC
Ethylbenzene	2,660.	1,680.	1,800.	1,070.	753.	730.	220.	TBQ	1,500.	725
Toluene	28,400.	17,900.	18,800.	13,300.	9,500.	5,010.	1,440.	3,120.	22,900.	11,500
Xylenes	16,800.	10,800.	10,700.	7,010.	5,310.	6,820.	2,690.	2,000.	10,300.	5,620.
Total STEX	63,360	36,870.	39,660.	27,040.	(TITTITI BESEAU BESEAU BESEAU	13,103.	4,500.	6,367	39.550	18,855
MTBE	4,080.	ND	2,140.	ND		TBQ		3,410.	8,320.	ND
STEXANTEE	67,440.	36;870.		27,040				8,767.	47,910	
Il vietines acceptant				reported a secondary of the	parameter in the second			SSESSOR AUCKNOONS		ANT-N-Linds

All values reported in ug/L (ppb)

ND - None Detected

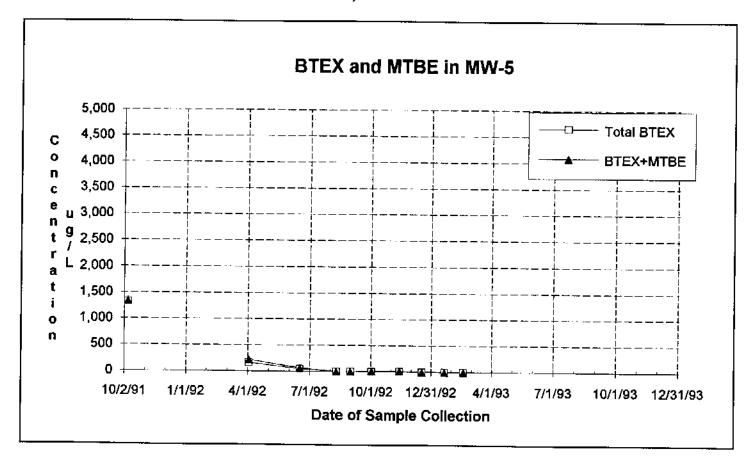
FP - Free Product



Monitoring Well 4

			INCI	morning a	4CII 4						
	Date of S	ample Co	llection		-	·			_		
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/9	2 1:	2/17/92	1/20/93	2/18/93
Benzene		6,020.	8,160.	5,840.	6,060.	6,560.	FP/0.6	- -	P/0.75'	FP/1.48	FP/1.68
Chlorobenzene		ND	ND	ND				+	1	1	1171.00
1,2-DCB	-	ND	ND	ND				-	1	-	
1,3-DCB		ND	ND	ND				\top	_		- -
1,4-DCB		ND	ND	ND	_			+			
Ethylbenzene	-	1,600.	1,780.	1,250.	1,090.	2,900.					
Toluene	-	14,800.	17,500.	13,800.	13,900.	22,300.		+	 	-	-
Xylenes	-	9,780.	11,000.	8,160.	7,760.	20,200.		+-			
Total BTEX		32,200.	38,440.	29,050.	28,810.	51,960.					
MTBE		4,140.	3,260.	2,100.	594.	727.	B88840000000000000000000000000000000000		9.4000 populari		
BIEXHMTBE		36340.	41700.	31150.	29404.	62687.	čanani Springer	-			

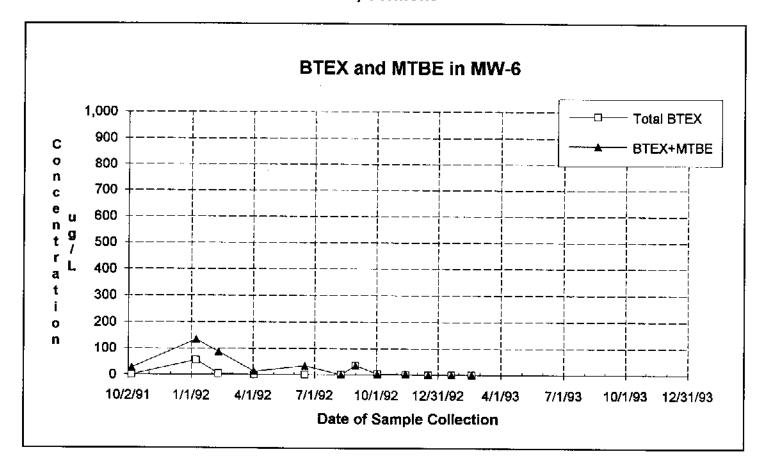
All values reported in ug/L (ppb)



Monitoring Well 5

				itoring v	vell 5					
	Date of S	ample Co	llection			·				
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/92	12/17/92	1/20/93	2/18/93
Benzene	-	9.4	TBQ	ND	ND	ND	1.1	ND	ND	ND
Chlorobenzene	- 1	ND	ND	ND				ND	ND	
1,2-DCB		ND	ND	ND	ND			ND	ND	ND
1,3-DCB	-	ND	ND	ND	ND		ND	ND	ND	ND
1,4-DCB	- 1	ND	ND	ND		ND	ND	ND	ND	ND
Ethylbenzene		6.2	ND	ND		ND	ND	ND	ND	
Toluene		45.6	14.7	ND	ND	ND	TBQ	ND	ND	ND
Xylenes	-	104.	34.	ND	ND	ND	2.0	ND	ND	ND
Total BTEX		165	49.	NĐ	ND	Till Hill become conscious	3.1	ND	- D	000000000000000000000000000000000000000
MTBE		54.5	21.0	ND	ND	12.5	13.6	TBQ	ND	TBQ
PTEX-MUSE		220.	70.	ND	ND	12.5	16.7	TEQ	ND	and a contract of the second

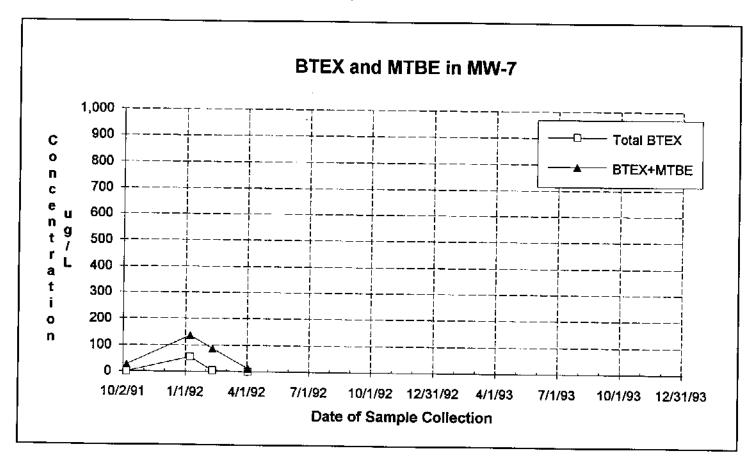
All values reported in ug/L (ppb)



Monitoring Well 6

			INIOIII	itoring v	AGII O					
	Date of S	ample Co	llection		***	:				•
PARAMETER	2/10/92	4/3/92	6/17/92	8/10/92	8/31/92	10/2/92	11/13/92	12/17/92	1/20/93	2/18/93
Benzene	ND	ND	ND	ND	5.1	3.6	ND	ND	ND	ND
Chlorobenzene	Z	D	ND	ND	ND	ND	ND	ND	ND.	ND
1,2-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-DCB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	3.60	TBQ	TBQ	ND	20.5	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	9.4	ND	ND	ND	ND	ND
Total ETEX	3.60	TBQ	TBQ	ND	35,0	3.6	ND	ND	ND	ND
MTBE	84.1	12.4	34.3	ND	ND	TBQ	***************************************	ND	ND	ND
BTEXAMTBE	87.7	12.4	34,3	ND	35.0	3.6	3,5		•00V	ND

All values reported in ug/L (ppb)



Monitoring Well 7

The state of the s					
Date of Sample Collection					
10/7/91	1/8/92	2/10/92	4/3/92		
ND	9.63	ND	ND		
ND	ND	ND	ND		
ND	ND	ND	ND		
ND	ND	ND	ND		
ND	ND	ND	ND		
ND	1.21	ND	ND		
ND	25.7	3.60	TBQ		
ND	19.6	ND	ND		
ND	56.1	3.60	TEO		
26.9	79.3	84.1	1 2.4		
26.9	135.4	87.7	12.4		
	Date of S 10/7/91 ND	Date of Sample Co 10/7/91 1/8/92 ND 9.63 ND ND ND ND ND ND ND ND ND 1.21 ND 25.7 ND 19.6 ND 56.1 26.9 79.3	Date of Sample Collection 10/7/91 1/8/92 2/10/92 ND 9.63 ND ND ND ND ND ND ND ND ND ND ND ND ND ND 1.21 ND ND 25.7 3.60 ND 19.6 ND ND 56.1 3.60 26.9 79.3 84.1		

All values reported in ug/L (ppb)



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International PROJECT NAME: McGoffs REPORT DATE: March 17, 1993

REPORT DATE: March 17, 1993 DATE SAMPLED: March 2, 1993 PROJECT CODE: GIMG1272

REF.#: 42,936 - 42,937

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D. Laboratory Director

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Laboratory Services

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs REPORT DATE: March 17, 1993 DATE SAMPLED: March 2, 1993 DATE RECEIVED: March 3, 1993 ANALYSIS DATE: March 15, 1993 PROJECT CODE: GIMG1272 REF.#: 42,936 STATION: Influent TIME SAMPLED: 12:00

SAMPLER: P. Hack

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	5	11.1
Chlorobenzene	5	ND^2
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	TBQ^3
Toluene	5	158.
Xylenes	5	101.
MTBE	25	ND

Bromobenzene Surrogate Recovery: 131%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected
- 3 Trace below quantitation limit



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs REPORT DATE: March 17, 1993 DATE SAMPLED: March 2, 1993 DATE RECEIVED: March 3, 1993

ANALYSIS DATE: March 15, 1993

PROJECT CODE: GIMG1272

REF.#: 42,937

STATION: Effluent #1 TIME SAMPLED: 11:58 SAMPLER: P. Hack

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^{r}
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 93%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

1 None detected

CHAIN-OF-CUSTODY RECORD / 6 /

UU28 1

32 Janies Brown Drive Williston, Vermont 05495 [802] 879-4333 10914132 mcGUCCS Project Name: Reporting Address: 2B Dorset Cone Billing Address: Site Location: Barre Don T Same Peter Hack Endyne Project Number: Contac: Name: Sampler Name: GIMG 1212 Company/Phone #: Gn Efin - 875 7708 Company/Phone #: Gn (Cin 879728 Date/ Container Analysis Sample Lab # Sample Description Time 3/2/43 Matrix Field Results/Remarks Required Preservation Rush Type/Size Influent H20 12 0 40ml 602 HC1 Effluent #1 120 11:58 40 me 602 HC1 Relinquished by: Signature Date/Time 3 - 3 - 93Received by: Signature 0815 Relinquished by: Signature Received by: Signature 08:20 am 3-3-93 RECEIVED Requested Analyses Total Solids Metals ICP/AA FPA 8270 EPA 624 Chloride Total P 12 TSS Fecal and/or Tot. 22 EPA 625 B/N or A EPA 8010 Ammonia N Total Diss. P. 13 TDS COD 23 EPA 418.1 EPA 8020 Nitrate N BODe 14 Turbidity BIEX EPA 608 Pert/PCB EPA 8060 EPA 601/602 Natrate N Alkalinity Conductivity EFA 8240 **EPTOX** TCLP (Specify voltiles, semi-volatiles, metals, pesticides, herbicides) 31 32 Other (Specify):



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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International

PROJECT NAME: McGoff's REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993

PROJECT CODE: GIMG1277

REF.#: 42,468 - 42,478

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Syan Dull furtham wells.
Harry B. Locker, Ph.D.

Laboratory Director

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993

ANALYSIS DATE: March 2, 1993

DATE RECEIVED: February 19, 1993

PROJECT CODE: GIMG1277

REF.#: 42,472 STATION: MW-1

TIME SAMPLED: 11:38 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 89%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993

DATE SAMPLED: February 18, 1993
DATE RECEIVED: February 19, 1993
ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,471 STATION: MW-2

TIME SAMPLED: 11:20 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,473 STATION: MW-3

TIME SAMPLED: 11:45 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L) ¹	Concentration (ug/L)
Benzene	200	1,010.
Chlorobenzene	200	ND ²
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	200	725.
Tolucne	200	11,500.
Xylenes	200	5,620.
MTBE	1000	ND

Bromobenzene Surrogate Recovery: 95%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 8

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NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 0.5% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,469 STATION: MW-5

TIME SAMPLED: 10:55 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	TBQ^2

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,470 STATION: MW-6

TIME SAMPLED: 11:15 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^{1}
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,478

STATION: Carbon Influent TIME SAMPLED: 12:09 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	5	ND^2
Chlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	ND
Toluene	5	63,8
Xylenes	5	43.5
MTBE	25	ND

Bromobenzene Surrogate Recovery: 105%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993 ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,477

STATION: Carbon Effluent #1

TIME SAMPLED: 12:05 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 93%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993

DATE SAMPLED: February 18, 1993
DATE RECEIVED: February 19, 1993
ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,476

STATION: Carbon Effluent #2

TIME SAMPLED: 12:02 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993

DATE RECEIVED: February 19, 1993 ANALYSIS DATE: March 2, 1993 PROJECT CODE: GIMG1277

REF.#: 42,475

STATION: Equipment Blank TIME SAMPLED: 11:47 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	NIDI
	1	$\mathrm{ND}^{\scriptscriptstyle 1}$
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 93%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993

DATE SAMPLED: February 18, 1993 DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,474

STATION: Duplicate TIME SAMPLED: 11:45 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L) ¹	Concentration (ug/L)
Benzene	200	1,030.
Chlorobenzene	200	ND^2
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	200	712.
Toluene	200	11,400.
Xylenes	200	5,510.
MTBE	1000	ND

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 8

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 0.5% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: March 3, 1993 DATE SAMPLED: February 18, 1993

DATE RECEIVED: February 19, 1993

ANALYSIS DATE: March 2, 1993

PROJECT CODE: GIMG1277

REF.#: 42,468

STATION: Trip Blank TIME SAMPLED: 7:40 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

RECENTAGE 19 5 mm

32 James Brown Drive Williston, Vermont 05495 [802] 879-4333

CHAIN-OF-CUSTODY RECORD

0

Job# 109/4/32

005852

Project Name: McC-(1 's Site Location: Barry VI		Reporting Address: Griffin International, 2B Derset Lone Willisten, UT 05495					Billing Address:				
Endyne Project Number 51MG 29>	Contact Na Company/P	Contact Name: Don Tourangean Se			Sampler Name: Company/Phone #: SGME.						
Lab # Simple Description Maurit	Date/ Time Z/X/13	Хо	Containe:	.1.256.5	Field	i Results	Remarka	Apal Requ		Sample Preservation	Rush
40,768 Trip Blank 100/ HzO	7:90	2	40	mL		_		60	2	HCI	
47,469 MW-5	10:55	1	[1]	1	
42470 MW-6	11:15										
42,471 MW-2	11:20			·							
42472 MW-1 100"	11:38										
42423 MW-3 0,51	11:45										
42474 Duplicaic	11:45										
12415 Equipment Blank 1991	11:47										
4),476 Carbon Etillient # Z	12:02									1	
Y2,477 Carbon Effluent #11	12:05								,		
42,478 Carbon Influent 20%	12:09	₩	Ň	V					V		
										·	
Relinquished by: Signature DS M. Heaw	Received by:	ignature	lis	∠ 4	Lurre	0)	Date/Time 2//	19/4	3	10:10	وساريم
Relinquished by: Signature	Received by: S	ignature		//	<i></i>		Date/Time				
			Requeste	d Analy	ses						
1 pH 6 TKN	и то	tal Solida		16	Metals ICP/AA	21	EPA 624		26	EPA 8270	
2 Chloride 7 Total P	12 TS	s		17	Pecal and/or Tot.	22	EPA 625 B/N or A		27	EPA 8010	
3 Ammonia N B Total Diss. P	13 π			18	COD	23	EPA 418.1		28	EPA 8020	
4 Nitrite N 9 BCD _c		onductivity		19 20	BTEX EPA 601 (602)	24	EPA 608 Pest/PCB EPA 8240		29 30	EPA 8060 EPTOX	
31 TCLP (Specify voltiles, semi-volatiles, metals, pesticides, herbicides)						<u></u>			1 **	2,10,1	
12 Other (Specify):											



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International PROJECT NAME: McGoff's

DATE REPORTED: February 23, 1993 DATE SAMPLED: February 4, 1993 PROJECT CODE: GIMG1985

REF. #: 42,058 - 42,060

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated samples were preserved with HCl.

Although EPA Method 602 analysis was requested, due to scheduling constraints the samples were analyzed by equivalent EPA Method 8240.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D. Laboratory Director

enclosures



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- COMPOUNDS BY EPA METHOD 8240

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 23, 1993

SAMPLER: Peter Hack

DATE SAMPLED: February 4, 1993

DATE RECEIVED: February 5, 1993

PROJECT CODE: GIMG1985

ANALYSIS DATE: February 17, 1993

STATION: Influent

REF.#: 42,058

TIME SAMPLED: 8:45

<u>Parameter</u>	Minimum Detection Limit ²	Concentration (ug/L)
Benzene	5.	7.5
Chlorobenzene	10.	ND^{i}
1,2-Dichlorobenzene	10.	ND
1,3-Dichlorobenzene	10.	ND
1,4-Dichlorobenzene	10.	ND
Ethylbenzene	5.	5.0
Toluene	5.	88.5
Xylenes	15.	79.5
MTBE	15.	38.5

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

Bromofluorobenzene Surrogate Recovery: 91.%

NOTES:

- 1 None detected
- $2\,$ Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.



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LABORATORY REPORT

EPA METHOD 602 -- COMPOUNDS BY EPA METHOD 8240

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 23, 1993

SAMPLER: Peter Hack

DATE SAMPLED: February 4, 1993

DATE RECEIVED: February 5, 1993

PROJECT CODE: GIMG1985

ANALYSIS DATE: February 17, 1993

STATION: Effluent #1

REF.#: 42,059

TIME SAMPLED: 8:50

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	NDι
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	3.	ND
MTBE	3.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

Bromofluorobenzene Surrogate Recovery: 114.%

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- COMPOUNDS BY EPA METHOD 8240

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: February 23, 1993

SAMPLER: Peter Hack

DATE SAMPLED: February 4, 1993

DATE RECEIVED: February 5, 1993

PROJECT CODE: GIMG1985

ANALYSIS DATE: February 17, 1993

STATION: Effluent #2

REF.#: 42,060

TIME SAMPLED: 8:55

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND^i
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	3.	ND
MTBE	3.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

Bromofluorobenzene Surrogate Recovery: 96.%

NOTES:

= ENDYINE, INC.

32 James Grown Orive
Williston, Vermont 05495
(602) 879-4333

VAI 14137

CHAIN-OF-CUSTODY RECORD

005851

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Endyn	e Project Number:	J. M. (J 19	185	Contact 1 Company	Name: /Phone #:	P Hack Griffin	87977		Sampler Name: Company/Phone #:	Peter	Hack (Fin 8797	708
Lab#	Sample Descri	ption		Matrix	Date/ Time 2-/44/9	3 No.	Container Type/Size	Piela	i Results/	Remarks	Azialysis Required		Rush
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Relinqui	ahed by: Signature				Received by	 		-		Date/Time			
							Requested Analy	ses					
	.H.	6	TKN .		11	Total Solids	16	Metals ICP/AA	21	EPA 624		26 FPA 8270	
2	Chlonde	7	Total P		12	TSS	17	Fecal and/or Tot.	22	EPA 625 B/N or A		27 EPA 8010	
3	Ammonia N	8	Total D	Nas. P	13	TDS	18	COD	23	EPA 418.1		28 EPA 8020	
4	Nitrite N	9	BOD ₅		14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		29 EPA 8080	
5	Nitrate N	10	Alkalini	ity	15	Conductivity	20	EPA 601/602	25	EPA 8240		30 EPTOX	
31	TCLP (Specify, voltiles, semi-volatiles	ı, metāli, pest	ticides, hert	bicides)				_					

Other (Specify):

32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993 PROJECT CODE: GIMG1842

REF.#: 41,371 - 41,380

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D. Laboratory Director

cnclosures



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's REPORT DATE: February 1, 1993

DATE SAMPLED: January 20, 1993

PROJECT CODE: GIMG1842

REF.#: 41,373

STATION: MW-1

TIME SAMPLED: 11:50 SAMPLER: K. McGraw

DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND¹
Chlorobenzene	1	ND ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 95%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: February 1, 1993

DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,374 STATION: MW-2

TIME SAMPLED: 12:20 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	NTN
	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 3

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993

DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,376

STATION: MW-3

TIME SAMPLED: 12:55 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	4,890.
Chlorobenzene	100	ND ²
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	1,500.
Toluene	100	22,900.
Xylenes	100	10,300.
MTBE	500	8,320.

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 10

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's REPORT DATE: February 1, 1993

DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993

ANALYSIS DATE: January 30, 1993

PROJECT CODE: GIMG1842

REF.#: 41,372 STATION: MW-5

TIME SAMPLED: 11:15

SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 83%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: February 1, 1993

DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,375 STATION: MW-6

TIME SAMPLED: 12:35 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
_		
Benzene	1	ND_1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 97%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993

DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,380

STATION: Liquid Phase Carbon Inf

TIME SAMPLED: 13:35 SAMPLER: K. McGraw

Detection Limit (ug/L)1	Concentration (ug/L)
5	$ m ND^2$
5	ND
5	74.2
5	48.4
25	ND
	5 5 5 5 5 5 5 5

Bromobenzene Surrogate Recovery: 86%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993

DATE RECEIVED: January 20, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,379

STATION: Liquid Phase Carbon Eff

TIME SAMPLED: 13:30 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)				
Benzene	1	ND^1				
Chlorobenzene	1	ND				
1,2-Dichlorobenzene	1	ND				
1,3-Dichlorobenzene	1	ND				
1,4-Dichlorobenzene	1	ND				
Ethylbenzene	1	ND				
Toluene	1	ND				
Xylenes	1	ND				
MTBE	5	ND				

Bromobenzene Surrogate Recovery: 93%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,378

STATION: Equipment Blank TIME SAMPLED: 13:20 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
D		
Benzene	1	ND_1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 80%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,377

STATION: Duplicate TIME SAMPLED: 12:55 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	6,450.
Chlorobenzene	100	ND²
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	1,920.
Toluene	100	29,900.
Xylenes	100	13,400.
MTBE	500	7,740.

Bromobenzene Surrogate Recovery: 106%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 10

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's REPORT DATE: February 1, 1993 DATE SAMPLED: January 20, 1993

DATE RECEIVED: January 21, 1993 ANALYSIS DATE: January 30, 1993 PROJECT CODE: GIMG1842

REF.#: 41,371

STATION: Trip Blank TIME SAMPLED: 8:00 SAMPLER: K. McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 89%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

EPA METHOD 602 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: February 1, 1993

DATE SAMPLED: January 20, 1993 DATE RECEIVED: January 21, 1993

ANALYSIS DATE: January 30, 1993

PROJECT CODE: GIMG1842

REF.#: 41,375 STATION: MW-6

TIME SAMPLED: 12:35 SAMPLER: K. McGraw

<u>Parameter</u>	Sample(ug/L)	Spike(ug/L)	Dup1(ug/L)	Dup2(ug/L)	Avg % Rec
Benzene	0	10	9.1	9	90%
Toluene	0	10	9.2	9	91%
Ethylbenzene	0	10	9.2	8.9	90%
Xylenes	0	30	26.5	26.4	88%

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CHAIN-OF-CUSTODY RECORD

Job# 10914132 00 765

Project N Site Loca	lame: McGoff! tion: Barre, t	3 /		Report	ng A	ddress >Y'≶&'	:Gri t La	iffin	Internation, Williston, V	14)	Billing Address:	591	n C		
Endyne I	roject Number		1842/	Contact Compa	Nam	ne: ;	Kevin	M¢ vi (T	braw 14/879-7	708	Sampler Name: Company/Phone #	; Ś9	me.	_	
Lab #	Sample Descripti	Ou <u>t</u>	Matrix	Date Tim 1/20/	. 🖛	No:	Contains Type/Si		Piel	d Result	e/Remarks	4	lysis uired	Sample Preservation	Rush
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41, 374	MW-2	-		12%	т-т										•
91,375	MW-6		٧	12:3	35										
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41.327	Liquid Phase Carbo			13:3		1		,					ļ - -		
71.380	Liquid Phase Carbon	Infla	ient 20/V	/313	5	V						1	7		
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	loride	7	Total P	12	TSS			17	Fecal and/or Tet.	22	EPA 625 B/N or A		27	EPA 8010	
-	nmonia N rite N		Total Diss. P	13	TDS			1 B	COD	23	EPA 418.1		28	EPA 8020	
	rate N	9 10	BOD _c	15	Turbio			19	BTEX EPA 60 (602)	24	EPA 606 Pest/PCB		29	EPA 8080	
 	LP (Specify: voltiles, semi-volatiles, me	-		11 17	CORD	uctivity		20	ErA 60[/602/	25	EPA 8240		30	EPTOX	
!!	er (Specify):		· · · · · · · · · · · · · · · · · · ·						·				_	<u> </u>	-



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 18, 1992 PROJECT CODE: GIMG1749

REF.#: 40,134 - 40,143

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry Locker, Ph.D. Laboratory Director

enclosures



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992

ANALYSIS DATE: December 30, 1992

PROJECT CODE: GIMG1749

REF.#: 40,139 STATION: MW-1

TIME SAMPLED: 13:45 SAMPLER: Kevin McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_{1}
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	I	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 89%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 30, 1992 PROJECT CODE: GIMG1749

REF.#: 40,140 STATION: MW-2

TIME SAMPLED: 14:05 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	5.1

Bromobenzene Surrogate Recovery: 89%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 6

NOTES:



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992

ANALYSIS DATE: December 30, 1992

PROJECT CODE: GIMG1749

3,410.

REF.#: 40,138 STATION: MW-3

TIME SAMPLED: 13:15 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	237.
Chlorobenzene	100	ND^2
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	TBQ^3
Toluene	100	3,120.
Xylenes	100	2,000.

Bromobenzene Surrogate Recovery: 95%

500

NUMBER OF UNIDENTIFIED PEAKS FOUND: 5

NOTES:

MTBE

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected
- 3 Trace below quantitation limit



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992

ANALYSIS DATE: December 30, 1992

PROJECT CODE: GIMG1749

REF.#: 40,137 STATION: MW-5

TIME SAMPLED: 11:50 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Веплепе	1	NTN
	1	ND_1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	$\mathrm{TBQ^2}$

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

2 Trace below quantitation limit



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992

PROJECT CODE: GIMG1749

REF.#: 40,141 STATION: MW-6

TIME SAMPLED: 14:25 SAMPLER: Kevin McGraw

ANALYSIS DATE: December 31, 1992

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)	
Benzene	1	ND_1	
Chlorobenzene	1	ND- ND	
1,2-Dichlorobenzene	1	ND	
1,3-Dichlorobenzene	1	ND	
1,4-Dichlorobenzene	1	ND	
Ethylbenzene	1	ND	
Toluene	1	ND	
Xylenes	1	ND	
MTBE	5	ND	

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 31, 1992 PROJECT CODE: GIMG1749

REF.#: 40,143

STATION: Equipment Blank TIME SAMPLED: 14:45 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)	
Benzene	1	ND_1	
Chlorobenzene	1	ND	
1,2-Dichlorobenzene	1	ND	
1,3-Dichlorobenzene	1	ND	
1,4-Dichlorobenzene	1	ND	
Ethylbenzene	1	ND	
Toluene	1	ND	
Xylenes	1	ND	
MTBE	5	ND	

Bromobenzene Surrogate Recovery: 95%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 31, 1992 PROJECT CODE: GIMG1749

REF.#: 40,142

STATION: Duplicate TIME SAMPLED: 14:25 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_{1}
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 94%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 30, 1992 PROJECT CODE: GIMG1749

REF.#: 40,134

STATION: Trip Blank TIME SAMPLED: 8:00 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 90%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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EPA METHOD 602 LABORATORY REPORT

MATRIX SPIKE AND DUPLICATE LABORATORY CONTROL DATA

CLIENT: Griffin International PROJECT NAME: McGoff's REPORT DATE: January 4, 1993

DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 30, 1992 PROJECT CODE: GIMG1749

REF.#: 40,135

STATION: Liquid Phase Carbon Eff.

TIME SAMPLED: 10:25 SAMPLER: Kevin McGraw

<u>Parameter</u>	Sample(ug/L)	Spike(ug/L)	Dup 1(ug/L)	<u>Dup 2(ug/L)</u>	Avg % Recovery
Benzene	0	10	10.5	12.5	112.
Toluene	0	10	10.9	12.8	119.
Ethylbenzene	0	10	10.6	12.5	116.
Xylenes	0	30	33.4	39.4	121.



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992

ANALYSIS DATE: December 30, 1992

PROJECT CODE: GIMG1749

REF.#: 40,136

STATION: Liquid Phase Carbon Inf.

TIME SAMPLED: 10:30 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	5	$\mathrm{TBQ^2}$
Chlorobenzene	5	ND^3
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	ND
Toluene	5	118.
Xylenes	5	67.1
MTBE	25	39.1

Bromobenzene Surrogate Recovery: 103%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 Trace below quantitation limit
- 3 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: December 31, 1992 DATE SAMPLED: December 17, 1992 DATE RECEIVED: December 18, 1992 ANALYSIS DATE: December 30, 1992 PROJECT CODE: GIMG1749

REF.#: 40,135

STATION: Liquid Phase Carbon Eff.

TIME SAMPLED: 10:25 SAMPLER: Kevin McGraw

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_1
Chlorobenzene	1	ND
1,2-Dichlorohenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

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CHAIN-OF-CUSTODY RECORD Job# 10914132

005558

Project N Site Loca	tion: Barre	VI	$\frac{1}{2}$	- Willi	sten	VT OTY	11, 2B Dorset Car 195	Billing Address:	Same		
5.00,001	Toject Willinger.	Z 11/0/	1749	Contact Na Company/F	me: hone #	Kevin McG Gaffin	1879-7708	Sampler Name: Company/Phone	Keun MC	braw 1879-7	708
Lab #	Sample Descri	ption	Matrix (2/17/	Date/ Time 92 12/17/92	No.	Container Type/Size	Field Resu	ilis/Remarks	Analysia Required	Sample Preservation	Rush
40 135	Trip Blank Liquid Phase Carte	~ FATTURENT	Hz0		2	40mL			602	HCL	
1917 36	Liquid Phase Cart	nx Influent	20 /.	10:30							
10,137	MW-5 MW-3	11/		11:50	_						
140,139	MW-1	100/		13:45							
40,140	MW-2 MW-6		-	14:05	-						
40,143	Duflicate Faire	lank		14:25							
175,143	Equipment B	IGNL *	<u> </u>	14:45	<u> </u>			·		V	
Relinquished	by: Signature	<u> </u>									
		LAMO		Reactives by: Si	gnature	insa/	Curry	Date/Time	18/92	17.0	Ono
Relinquished t	by: Signature		·	Received by: Si	nature			Date/Time			
[<u></u>	Requested Analyse	es				

	Ha	6	TKN	11	Total Solids	7	No. 1 depuis	<u> </u>			
2	Chloride	,	Total P	12	TSS	17	Metals ICP/AA Fecal and/or Tot		EPA 624		FPA 8270
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	22	EPA 625 B/N or A	27	EPA 8010
4	Nitrite N	9	BOD,	14	Turbidity	 _	 -	23	EPA 418.1	28	EPA 8020
5	Nitrate N	10	Alkalinity	15	Conductivity	-1 1/2/-	BTEX	24	EPA 608 Pet/PCB		EPA 8090
31	TCLP (Specify: voltiles, semi-volatiles, n	necals, pesti		н	Consulativity	11 1 20	EPA 601/602	25	EPA 8240	30	EPTOX
32	Other (Specify):				<u> </u>		<u> </u>		<u></u>		



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REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International

PROJECT NAME: McGoffs Sunoco

REPORT DATE: December 20, 1992 DATE SAMPLED: December 7, 1992 PROJECT CODE: GIMG1595

REF.#: 39,514 - 39,516

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry Locker, Ph.D. Laboratory Director

enclosures



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333 FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs Sunoco REPORT DATE: December 20, 1992 DATE SAMPLED: December 7, 1992 DATE RECEIVED: December 7, 1992 ANALYSIS DATE: December 20, 1992

PROJECT CODE: GIMG1595

REF.#: 39,516

STATION: Carbon Influent TIME SAMPLED: 10:11 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L) ¹	Concentration (ug/L)
Benzene	5	5.1
Chlorobenzene	5	ND^2
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	ND
Toluene	5	151.
Xylenes	5	87.1
MTBE	25	$\mathrm{TBQ^3}$

Bromobenzene Surrogate Recovery: 114%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected
- 3 Trace below quantitation limit



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: McGoffs Sunoco

REPORT DATE: December 20, 1992 DATE SAMPLED: December 7, 1992

DATE RECEIVED: December 7, 1992 ANALYSIS DATE: December 19, 1992 PROJECT CODE: GIMG1595

REF.#: 39,515

STATION: Carbon Effluent #1

TIME SAMPLED: 10:07 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)		
Benzene	1	$\mathrm{ND}^{\scriptscriptstyle 1}$		
Chlorobenzene	1	ND.		
1,2-Dichlorobenzene	1	ND		
1,3-Dichlorobenzene	1	ND		
1,4-Dichlorobenzene	1	ND		
Ethylbenzene	1	ND		
Toluene	1	ND		
Xylenes	1	ND		
MTBE	5	10.4		

Bromobenzene Surrogate Recovery: 80%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: McGoffs Sunoco
REPORT DATE: December 20, 1992

DATE SAMPLED: December 7, 1992 DATE RECEIVED: December 7, 1992 ANALYSIS DATE: December 19, 1992 PROJECT CODE: GIMG1595

REF.#: 39,514

STATION: Carbon Effluent #2

TIME SAMPLED: 10:04 SAMPLER: D. Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_{7}
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	TBO^2

Bromobenzene Surrogate Recovery: 82%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

- 1 None detected
- 2 Trace below quantitation limit

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CHAIN-OF-CUSTODY RECORD

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Project Name: Bucker Reporting Address: Billing Address: Site Location: MR1412 Care ittens Endyne Project Number. 61m61595 Contact Name: Clift's Histo Sampler Name: Company/Phone #: 879-7764 Company/Phone # タフケッシフェス Saryte Decription Matrix 1 Time No. Type Nine Required Presentation 144163 CARRY & BARRYELTE 46mg 6 10004 70 Mec 39516 CAPRIN HARLEST w 10:17 40ml 10 1100 10.11 416 xIC 26 111 -Relinquished by Signature Received by: Signature - To- 40 Date/Time Relinquished by: Signature Received by Signature Date/Time

Requested Analyses

				-			<u> </u>				
	<u> </u>		TEN	1	Total Solida	16	Menuls ICP/AA	1			
	Chiloride	7	Total P	12	1555	17	Facal and/or Tot.	22	BPA 625 B/N or A	 *	EPA ION
3	Attitionia N	B	Total Diss. P	13	TDS	18	COD	╟╼▔			EPA NOLO
1	Mississ N	9	BOD		Turbidity			 -	EPA 418.1		EPA 8029
5	Nitrane N	10	Alkalinity	1 :		<u> </u>	STEX	24	EPA 608 Peak/PCB	29	EPA 8080
31	TCLP (Seconds voltage apprised ables a		·	11	Conductivity	20	EPA 6011612	Ħ	EPA 8240	36	EPTOX
32	(Company) (Compa										



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw
DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 23, 1992

STATION: MW-1 REF.#: 38,657

TIME SAMPLED: 10:45

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND^1
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	4.8

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 23, 1992

STATION: MW-2 REF.#: 38,659

TIME SAMPLED: 12:20

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND¹
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 3

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: MW-3

REF.#: 38,661

TIME SAMPLED: 13:10

<u>Parameter</u>	Minimum Detection Limit ²	Concentration (ug/L)
Benzene	100.	150.
Chlorobenzene	200.	ND^1
1,2-Dichlorobenzene	200.	ND
1,3-Dichlorobenzene	200.	ND
1,4-Dichlorobenzene	200.	ND
Ethylbenzene	100.	220.
Toluene	100.	1,440.
Xylenes	100.	2,690.
MTBE	100.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 11

- 1 None detected
- 2 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 23, 1992

STATION: MW-5 REF.#: 38,658

TIME SAMPLED: 11:40

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	1.1
Chlorobenzene	2.	ND^1
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	TBQ ²
Xylenes	1.	2.0
MTBE	1.	13.6

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

- 1 None detected
- 2 Trace below quantitation limit

Reviewed by	



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: MW-6 REF.#: 38,660

TIME SAMPLED: 12:45

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND¹
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	3.5

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NO	TES:
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: Carbon Influent

REF.#: 38,665

TIME SAMPLED: 13:40

Parameter	Minimum Detection Limit ²	Concentration (ug/L)
Benzene	5.	20.5
Chlorobenzene	10,	ND ¹
1,2-Dichlorobenzene	10.	ND
1,3-Dichlorobenzene	10.	ND
1,4-Dichlorobenzene	10.	ND
Ethylbenzene	5.	5.5
Toluene	5.	166.
Xylenes	5.	98.0
MTBE	5.	6.0

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

- 1 None detected
- 2 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.

Reviewed	by	
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: Carbon Effluent

REF.#: 38,664

TIME SAMPLED: 13:30

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND^1
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	4.7

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

N	\cap	т	TC.
7.4	v	1	LJ.

1 None detected

Reviewed by

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 23, 1992

STATION: Trip Blank

REF.#: 38,656

TIME SAMPLED: 7:30

Parameter	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND^1
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: Equipment Blank

REF.#: 38,663

TIME SAMPLED: 13:25

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	$ND^{\scriptscriptstyle 1}$
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylhenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's

REPORT DATE: November 30, 1992

SAMPLER: Kevin McGraw

DATE SAMPLED: November 13, 1992

DATE RECEIVED: November 13, 1992

PROJECT CODE: GIMG1575

ANALYSIS DATE: November 24, 1992

STATION: Duplicate

REF.#: 38,662

TIME SAMPLED: 13:10

<u>Parameter</u>	Minimum Detection Limit ²	Concentration (ug/L)		
Benzene	100.	150.		
Chlorobenzene	200.	ND ¹		
1,2-Dichlorobenzene	200.	ND		
1,3-Dichlorobenzene	200.	ND		
1,4-Dichlorobenzene	200.	ND		
Ethylbenzene	100.	210.		
Toluene	100.	1,190.		
Xylenes	100.	2,230.		
MTBE	100.	ND		

NUMBER OF UNIDENTIFIED PEAKS FOUND: 12

NOTES:

- 1 None detected
- 2 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoffs

REPORT DATE: November 20, 1992

SAMPLER: Peter Murray

DATE SAMPLED: Not Indicated (10/30/92)
DATE RECEIVED: November 2, 1992

PROJECT CODE: GIMC1431

ANALYSIS DATE: November 13, 1992

STATION: Carbon Influent

REF.#: 38,047

TIME SAMPLED: 14:55

<u>Parameter</u>	Minimum Detection Limit ²	Concentration (ug/L)
Benzene	5.	20.5
Chlorobenzene	10.	ND^1
1,2-Dichlorobenzene	10.	ND
1,3-Dichlorobenzene	10.	ND
1,4-Dichlorobenzene	10.	ND
Ethylbenzene	5.	5.5
Toluene	5.	127.
Xylenes	5.	87.5
MTBE	5.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

- 1 None detected
- 2 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs

REPORT DATE: November 20, 1992

SAMPLER: Peter Murray

DATE SAMPLED: Not Indicated

DATE RECEIVED: November 2, 1992

PROJECT CODE: GIMC1431

ANALYSIS DATE: November 13, 1992

STATION: Carbon Effluent

REF.#: 38,046

TIME SAMPLED: 14:54

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND^1
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	ND
Xylenes	1.	ND
MTBE	1.	2.2

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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CHAIN-OF-CUSTODY RECORD

005577

Magniff 3 Project Name: Reporting Address: THE V WINDAM WALL IN. Billing Address: Site Location: June 14 Contact Name: 1 STAT MULLING
Company/Phone #: (20) 773 - 77.99 Endyne Project Number: Same-Sampler Name: Company/Phone #: Date/ Container Lab # Analysis Sample Description Sample: Matrix Time Field Results/Remarks Required Preservation Rush Type Size -uthon 1. (floor 1454 1. 20 1 000 66 Lather William 14.55 helica Com *** 1-9 -- 6-100 工及月 Relinquished by: Signature Received by: Signature Date/Time Relinquished by: Signature Received by: Signature Date/Time Requested Analyses Total Solids Metals ICP/AA EPA 624 EPA 8270 Chloride Total P 12 TSS Fecal and/or Total 22 EPA 625 B/N or A 27 EPA 8010 Аттога N Total Diss. P 13 TDS 18 COD EPA 418.1 EPA 8020 Nitrite N BOD Turbidity 19 BTEX 24 EPA 608 Pest/PCB 29 EPA 8080 Nitrate N Conductivity EPA 601/602 EPA 8240 30 **EPTOX** 31 TCLP (Specify: voltiles, semi-volatiles, metals, pesticides, herbicides) 32 Other (Specify):



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: October 28, 1992 DATE SAMPLED: October 13, 1992 DATE RECEIVED: October 13, 1992 ANALYSIS DATE: October 27, 1992 PROJECT CODE: GIMS1458

REF.#: 37,052

STATION: Carbon Influent TIME SAMPLED: 10:24 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	5	28.9
Chlorobenzene	10	26.9 ND ²
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	5	ND
Toluene	5	125.
Xylenes	5	67.7
MTBE	25	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: October 28, 1992 DATE SAMPLED: October 13, 1992 DATE RECEIVED: October 13, 1992 ANALYSIS DATE: October 27, 1992 PROJECT CODE: GIMS1458

REF.#: 37,051

STATION: Carbon Eff #1 TIME SAMPLED: 10:20 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)				
Benzene	1	1.4				
Chlorobenzene	2	ND^1				
1,2-Dichlorobenzene	2	ND				
1,3-Dichlorobenzene	2	ND				
1,4-Dichlorobenzene	2	ND				
Ethylbenzene	1	ND				
Toluene	1	ND				
Xylenes	1	ND				
MTBE	5	$\mathrm{TBQ^2}$				

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

- 1 None detected
- 2 Trace below quantitation limit



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's

REPORT DATE: October 28, 1992 DATE SAMPLED: October 13, 1992 DATE RECEIVED: October 13, 1992 ANALYSIS DATE: October 28, 1992 PROJECT CODE: GIMS1458

REF.#: 37,050

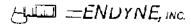
STATION: Carbon Eff #2 TIME SAMPLED: 10:17 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)			
70	_				
Benzene	1	1.3			
Chlorobenzene	2	ND^1			
1,2-Dichlorobenzene	2	ND			
1,3-Dichlorobenzene	2	ND			
1,4-Dichlorobenzene	2	ND			
Ethylbenzene	1	ND			
Toluene	1	ND			
Xylenes	1	ND			
MTBE	5	ND			

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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1 None detected



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CHAIN-OF-CUSTODY RECORD

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Requested Analyses																	
. 1	r.H			6	TKN		11	Total Solid	···	16	Metals ICP/AA	21	EPA 624		26	EPA 8270	
2	Cb)oride			7	Total P	•	12	TSS		17	Fecal and/or Tot.	22	EPA 625 B/N or A	-	27	EPA 8010	
3	Ammonia N			8	Total D	Diss. P	13	TDS		18	COD	23	EPA 418.1		28	EPA 8020	
4	Nitrite N			9	BOD _s		14	Turbidity		19	BTEX	24	EPA 608 PesuPCB		_ 29	EPA 8080	
5	Nitrate N			10	Alkalini	*	15	Conductivat	у	20	EPA 601/602	25	EPA 8240		30	EPTOX	
3)	_TCLP (Specify: ve	olitijes, ser	ni-volatiles, r	metals, pest	icides, bert	bicides)											
32	Other (Specify):															_	[]



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,438 STATION: MW #1 TIME SAMPLED: 10:15 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	$ND^{\scriptscriptstyle 1}$
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

Reviewed by	



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,441 STATION: MW #2 TIME SAMPLED: 11:50 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	6.8
Xylenes	1	20.8
MTBE	5	25.7
1,3-Dichlorobenzene 1,4-Dichlorobenzene Ethylbenzene Toluene Xylenes	2 2 1 1	ND ND ND 6.8 20.8

NUMBER OF UNIDENTIFIED PEAKS FOUND: 11

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LABORATORY REPORT

<u>EPA METHOD 602 -- PURGEABLE AROMATICS</u>

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992

DATE RECEIVED: October 2, 1992

ANALYSIS DATE: October 15, 1992

PROJECT CODE: GIMG1342

REF.#: 36,442

STATION: MW #3 TIME SAMPLED: 12:13

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L) ¹	Concentration (ug/L)
Benzene	100	543,
Chlorobenzene	200	ND ²
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	730.
Toluene	100	5,010.
Xylenes	100	6,820.
MTBE	500	TBQ ³

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected
- 3 Trace below quantitation limit

Reviewed by	ly
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992

DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992 PROJECT CODE: GIMG1342

REF.#: 36,440

STATION: MW #4

TIME SAMPLED: 11:10

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	C # C D
	100	6,560.
Chlorobenzene	200	ND^2
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	2,900.
Toluene	100	22,300.
Xylenes	100	20,200.
MTBE	500	727.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 16

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected

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Reviewed by	/w/



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992 PROJECT CODE: GIMG1342

REF.#: 36,439 STATION: MW #5 TIME SAMPLED: 10:45 SAMPLER: Don Tourangeau

Detection Limit (ug/L)	Concentration (ug/L)
1	ND_1
2	ND
1	ND
1	ND
1	ND
5	12.5
	1 2 2 2 2 2 1 1

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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Reviewed by	



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,443 STATION: MW #6 TIME SAMPLED: 12:40 SAMPLER: Don Tourangeau

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	3.6
Chlorobenzene	2	ND¹
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	TBQ^2

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

Reviewed by _____



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 15, 1992

PROJECT CODE: GIMG1342

REF.#: 36,448

STATION: Carbon Influent TIME SAMPLED: 13:05 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	5	36.9
Chlorobenzene	10	ND^2
1,2-Dichlorobenzene	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Ethylbenzene	5	ND
Toluene	5	184.
Xylenes	5	109.
MTBE	25	TBQ^3

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

- 1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.
- 2 None detected
- 3 Trace below quantitation limit

Reviewed by	
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,447

STATION: Carbon Effluent #1

TIME SAMPLED: 13:00 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	$\mathrm{ND}^{\scriptscriptstyle 1}$
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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1 None detected

Reviewed by _____



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,446

STATION: Carbon Effluent #2

TIME SAMPLED: 12:55 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992

DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992

ANALYSIS DATE: October 15, 1992

PROJECT CODE: GIMG1342

REF.#: 36,445

STATION: Duplicate TIME SAMPLED: 11:10 SAMPLER: Don Tourangeau

Parameter	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	6,430.
Chlorobenzene	200	ND^2
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	2,870.
Toluene	100	24,000.
Xylenes	100	19,800.
MTBE	500	650.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 16

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected

Reviewed by	////



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,444

STATION: Equipment Blank TIME SAMPLED: 12:50 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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Reviewed by	



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: October 16, 1992 DATE SAMPLED: October 2, 1992 DATE RECEIVED: October 2, 1992 ANALYSIS DATE: October 16, 1992

PROJECT CODE: GIMG1342

REF.#: 36,437

STATION: Trip Blank TIME SAMPLED: 7:55

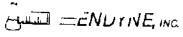
SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND¹
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

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1 None detected



32 James Brown Drive Williston, Vermont 05495 (802) 879-4333

CHAIN-OF-CUSTODY RECORD

005515

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_ Z	Chloride	7	Total P		12	TSS			17	Fecal and/or Tot.	22	EPA 625 B/N or A	27	EPA 8010	
3	Ammonia N	8	Total Di	ss. P		TDS			18	COD	23	EPA 418.1	28	EPA 8020	
<u>4</u> 5	Nitrite N	9	BODs			Turbio			19	BTEX	24	EPA 606 Pest/PCB	29	EPA 8080	
31					Condu	etivity		20	EPA 601/602 >	25	EPA 8240	30	EPTOX		
32	Other (Specify):	meun, penti	KAGEN, HELDI			_						· <u> </u>	 -		



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs

REPORT DATE: October 2, 1992

DATE SAMPLED: September 18, 1992 DATE RECEIVED: September 18, 1992

ANALYSIS DATE: September 30, 1992

PROJECT CODE: GIMG1221

REF.#: 35,949

STATION: Liquid Phase Carbon Inf.

TIME SAMPLED: 13:45 SAMPLER: Peter Murray

Detection Limit (ug/L)	Concentration (ug/L)
1	23.6
2	ND^1
2	ND
2	ND
2	ND
1	5.5
1	99.5
1	70.3
5	15.0
	1 2 2 2 2 2 1 1 1

NUMBER OF UNIDENTIFIED PEAKS FOUND: 7

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs

DEPORT DATE: October 2: 1

REPORT DATE: October 2, 1992 DATE SAMPLED: September 18, 1992

DATE SAMPLED: September 18, 1992 DATE RECEIVED: September 18, 1992 ANALYSIS DATE: September 30, 1992 PROJECT CODE: GIMG1221

REF.#: 35,950

STATION: Liquid Phase Carbon Eff.

TIME SAMPLED: 13:50 SAMPLER: Peter Murray

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	$\mathrm{ND}^{\scriptscriptstyle 1}$
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	16.3

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

CHAIN-OF-CUSTODY RECORD

000770

Project Name: Actions Reporting Address: Grand Notional 71' Doi sel Lu. William, UT Site Location: 1 110 Billing Address: Samo Endyne Project Number: Contact Name: Pater Mulley Sampler Name: Sauce_ Company/Phone #: (502) 879-7708 Company/Phone #: Date/ Container Analysis Sample Lab # Sample Description Matrix Time Field Results/Remarks Required Preservation Rush Na. Type/Size ANY Phosp Carpor W. HOML County Pho secution I for 6/9M6 1-166 602 Relinquished by: Signature Received by: Signature Date/Time 1/18/12 4:00 2011 Relinquished by: Signature Received by: Signature Date/Time Requested Analyses TKN Total Solids Metais ICP/AA EPA 624 FPA 8270 Chloride Total P 12 TSS 17 Fecal and/or Tot. 22 EPA 625 B/N or A 27 EPA 8010 Ammonia N Total Diss. P. 13 TDS 18 COD 23 EPA 418.1 28 EPA 8020 Nitnte N BODe 14 Turbidity 19 BTEX EPA 608 Pest/PCB 24 29 EPA 8080 Nitrate N Alkalinity Conductivity EPA 601/602 EPA 8240 30 EPTOX TCLP (Specify, volules, semi-volatiles, metals, pesticides, herbicides) Other (Specify):



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992 ANALYSIS DATE: September 10, 1992

REF.#: 35,124 STATION: MW #1 TIME SAMPLED: 12:55

PROJECT CODE: GIMG1107

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

	N	U	I	ŀ	3	S	:
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1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992 ANALYSIS DATE: September 10, 1992

PROJECT CODE: GIMG1107

REF.#: 35,120 STATION: MW #2 TIME SAMPLED: 11:05 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	$ND^{_{1}}$
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	5.1

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

N	$\Gamma \cap \Gamma$	PPC.

1 None detected

Reviewed by	
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992 ANALYSIS DATE: September 10, 1992 PROJECT CODE: GIMG1107

REF.#: 35,121 STATION: MW #3 TIME SAMPLED: 11:30 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L) ¹	Concentration (ug/L)
Benzene	100	3,080.
Chlorobenzene	200	ND^2
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	753.
Toluene	100	9,500.
Xylenes	100	5,310.
MTBE	500	510.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 9

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected

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Reviewed by	- Andrews



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 11, 1992

PROJECT CODE: GIMG1107

REF.#: 35,123

STATION: MW #4 TIME SAMPLED: 12:16

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	6,060.
Chlorobenzene	200	$\stackrel{\cdot}{\mathrm{ND^2}}$
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	1,090.
Toluene	100	13,900.
Xylenes	100	7,760.
MTBE	500	594.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 13

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoff's Sunoco

REPORT DATE: September 14, 1992
DATE SAMPLED: August 31, 1992
DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 12, 1992

PROJECT CODE: GIMG1107

REF.#: 35,122

STATION: MW #5

TIME SAMPLED: 11:52

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 10, 1992

PROJECT CODE: GIMG1107

REF.#: 35,119

STATION: MW #6

TIME SAMPLED: 10:40

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	5.1
Chlorobenzene	2	ND¹
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	20.5
Xylenes	1	9.4
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992

DATE SAMPLED: August 31, 1992
DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 11, 1992

PROJECT CODE: GIMG1107

REF.#: 35,125

STATION: Duplicate TIME SAMPLED: 12:16 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)1	Concentration (ug/L)
Benzene	100	8,010.
Chlorobenzene	200	ND ²
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	1,250.
Toluene	100	16,600.
Xylenes	100	9,270.
MTBE	500	913.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 13

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.
- 2 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco

REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 10, 1992

PROJECT CODE: GIMG1107

REF.#: 35,126

STATION: Equipment Blank TIME SAMPLED: 13:05

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND_1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1 .	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco

REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992

DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 10, 1992

PROJECT CODE: GIMG1107

REF.#: 35,115

STATION: Trip Blank TIME SAMPLED: 7:45

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

E RECEIVED SEP 1 5 1992

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CHAIN-OF-CUSTODY RECORD

004190

32 James Brown Drive Williston, Vermont 05495 (802) 879-4333

Project Site L	ct Name: Process Transcocation:	ر . د	, z	Reporting Address:			Billing Address:								
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3 4	Ammonia N Nitrite N	- 8	Total Dis	a P	13	TDS		18	СОБ	23	EPA 418.1		28	EPA 8020]
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	Other (Specify):							· <u></u> -	·						

LABORATORY: WHITE

PROJECT MANAGER: YELLOW

SAMPLER: PINK



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 13, 1992

PROJECT CODE: GIMG1107

REF.#: 35,118

STATION: Carbon Influent TIME SAMPLED: 11:12 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	66.7
Chlorobenzene	2	ND^{1}
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	10.0
Toluene	1	246.
Xylenes	1	125.
MTBE	5	19.7

NUMBER OF UNIDENTIFIED PEAKS FOUND: 9

NOTES:

1 None detected

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992 DATE SAMPLED: August 31, 1992

DATE RECEIVED: September 1, 1992 ANALYSIS DATE: September 10, 1992 PROJECT CODE: GIMG1107

REF.#: 35,117

STATION: Carbon Effluent #1

TIME SAMPLED: 11:09 SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND¹
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoff's Sunoco REPORT DATE: September 14, 1992

DATE SAMPLED: August 31, 1992 DATE RECEIVED: September 1, 1992

ANALYSIS DATE: September 10, 1992

PROJECT CODE: GIMG1107

REF.#: 35,116

STATION: Carbon Effluent #2

TIME SAMPLED: 11:07

SAMPLER: Don Tourangeau

<u>Parameter</u>	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND^1
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

RECEIVED SEP 1 5 1992

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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs

REPORT DATE: September 9, 1992

SAMPLER: Don Tourangeau

DATE SAMPLED: August 21, 1992

DATE RECEIVED: August 21, 1992

PROJECT CODE: GIMG1024

ANALYSIS DATE: September 1, 1992

STATION: Carbon Influent

REF.#: 34,701

TIME SAMPLED: 14:06

<u>Parameter</u>	Minimum Detection Limit ²	Concentration (ug/L)
Benzene Chlorobenzene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Ethylbenzene Toluene Xylenes MTBE	10. 20. 20. 20. 20. 10. 10.	165. ND ¹ ND ND ND 34. 570. 264.
141 1 1313	10.	69.

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

- 1 None detected
- 2 Detection limit raised due to high levels of contaminants. Sample run at 10% dilution.

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Reviewed	by	



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International

PROJECT NAME: McGoffs

REPORT DATE: September 9, 1992

SAMPLER: Don Tourangeau

DATE SAMPLED: August 21, 1992

DATE RECEIVED: August 21, 1992

PROJECT CODE: GIMG1024

ANALYSIS DATE: September 1, 1992

STATION: Carbon Effluent #1

REF.#: 34,700

TIME SAMPLED: 14:04

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)
Benzene	1.	ND'
Chlorobenzene	2.	ND
1,2-Dichlorobenzene	2.	ND
1,3-Dichlorobenzene	2.	ND
1,4-Dichlorobenzene	2.	ND
Ethylbenzene	1.	ND
Toluene	1.	TBO^2
Xylenes	1.	ND
MTBE	1.	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 1

NOTES:

- 1 None detected
- 2 Trace below quantitation limit

Reviewed	by	
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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International PROJECT NAME: McGoffs

REPORT DATE: September 9, 1992

SAMPLER: Don Tourangeau

DATE SAMPLED: August 21, 1992

DATE RECEIVED: August 21, 1992

PROJECT CODE: GIMG1024

ANALYSIS DATE: September 1, 1992

STATION: Carbon Effluent #2

REF.#: 34,699

TIME SAMPLED: 14:02

<u>Parameter</u>	Minimum Detection Limit	Concentration (ug/L)			
Benzene	1.	ND^1			
Chlorobenzene	2.	ND			
1,2-Dichlorobenzene	2.	ND			
1,3-Dichlorobenzene	2.	ND			
1,4-Dichlorobenzene	2.	ND			
Ethylbenzene	1.	ND			
Toluene	1.	ND			
Xylenes	1.	ND			
MTBE	1.	ND			

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

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1 None detected

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Reviewed by _	

=ENDTINE, INC.

32 James Brown Brive Willeton, Vermont 05495 (802) 879-4333

CHAIN-OF-CUSTODY RECORD

. 004183

Proje Site I	ct Name: 111666	Reporting Address:						Billing Address: GREFFIL									
Endy		Contact Name: CHR is 14 (C Company/Phone #: 879.7768							Sampler Name: Dot - TECHALICANU Company/Phone #: 8 29-278								
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31	Nitrate N TCLP (Specify: voltiles, semi-volatiles, r	10	Alkalinie		15	Cond	luctivity	I	20	EPA 600602	<u>.</u>	25	EPA 8240		30	EPTOX	
32	Other (Specify):	реки, реки	cases, Berbi	cioes)	·-·								 ·				